Fatal Work Injury Rates in Missouri: 2007 - 2009

The U.S. Department of Labor, Bureau of Labor Statistics (BLS) in conjunction with state agencies administers the Census of Fatal Occupational Injuries (CFOI) program to produce counts of fatal workplace injuries that occur within a given year. As part of this program, the BLS also calculates national and state level fatal work injury rates. Fatal work injury rates depict the risk of being fatally injured at work. These rates are available for all workers and for groups of workers, such as those in a certain industry.

The fatal work injury rate represents the number of fatal occupational injuries per 100,000 full-time equivalent workers. The methodology used to calculate this rate is described below.

Census of Fatal Occupational Injuries - Missouri Fatal Work Injury Rates: 2007 - 2009 ***(Source: U.S. Department of Labor, Bureau of Labor Statistics)***

	2007	***2008***	***2009***
Overall Rate	5.7	5.4	5.6
Industry*			
Agriculture, forestry, fishing and hunting	60.1	42.6	84.3
Mining	---	---	---
Construction	14.5	11.8	21.8
Manufacturing	1.7	2.5	---
Transportation and utilities	15.5	13.9	5.5
Information	---	---	---
Wholesale and retail trade	4.6	4.3	3.7
Financial activities	---	---	2.6
Professional and business services	5.0	3.5	2.7
Educational and health services	0.9	1.8	---
Leisure and hospitality	5.1	3.1	3.5
Other services, except public administration	6.9	7.3	5.9
Public administration	6.6	11.7	---

Note: Dashes indicate that the BLS did not calculate the fatality rate because the data did not meet publication criteria or there were no data reported.
**Industry is classified according to the North American Industry Classification System (NAICS).*

The overall fatal work injury rate in Missouri increased in 2009 from 2008, but declined slightly from 2007. The agriculture, forestry, fishing and hunting industry had the highest such rate among Missouri industries for all three years, and experienced a 97.9 percent increase from 2008 to 2009 and by 40.3 percent from 2007. This was mainly due to an increase in the number of fatalities in this industry to 46 in 2009 from 29 in 2007 and from 22 in 2008. The construction industry had the second highest fatal work injury rate in 2009 increasing by 84.7 percent from 2008 and by 50.3 percent from 2007. The transportation and utilities industry had the second highest fatal work injury rate in 2007 and 2008, but declined by 60.4 percent in 2009 so that this industry actually had the fourth highest rate among the industries in 2009. The financial activities industry had the lowest fatal work injury rate for 2009.

The fatal work injury rate declined in these industries from 2007 to 2009: transportation and utilities; wholesale and retail trade; professional and business services; leisure and hospitality (although the rate increased from 2008 to 2009); and other services, except public administration.

Methodology for Calculating Fatal Work Injury Rates

In the past, fatal work injury rates were employment-based using employment estimates from the U.S. Census Bureau's Current Population Survey (CPS). Beginning in 2007, the CFOI adopted hours worked

estimates from the CPS as the denominator of state fatal injury rates to measure fatal injury risk per standardized length of exposure. This is generally considered to be more accurate than employment-based rates. Hours-based rates use the average number of employees at work and the average hours each employee works per year. Because of the substantial differences between rates calculated using the two methods, hours-based State fatal injury rates should not be compared to the employment-based rates from years prior to 2007.

Although "at work" and "average hours" data are available at the national level, they are not available at the state level. State fatal injury rates by industry can be imputed by using national-level information to calculate the average number of hours for each employee. The rate was calculated as: (N/EH) x 200,000,000 where:

N = number of fatal work injuries
EH = total hours worked by all employees during the calendar year
200,000,000 = base for 100,000 equivalent full-time workers (working 40 hours per week, 50 weeks per year)

The imputation to calculate EH (total hours worked by all employees during the calendar year) for the state was calculated as: EHS = HWN x ES where:

ES = state employment
HWN = average annual number of hours for each employee at the national level.

Please note that workers younger than 16 years, volunteer workers, and members of the resident military are not included in fatal work injury rate calculations to maintain consistency with the CPS employment. The ownership category Government is not presented separately and may be included in any industry category.

Fatal Injury Rate Limitations

State industry rates are not directly comparable to national industry rates. Because state rates include government workers in the respective industry sector and are not broken out separately, both the numerator and denominator include a different group of workers than that of the national rates. BLS does not advise state-to-nation and state-to-state comparison of fatal work injury rates due to the different mix of industries in each state. A state dominated by industries with traditionally high fatal work injury rates, such as mining or agriculture, will likely have a much higher overall rate than a state dominated by less hazardous industries, such as trade. Even within industry categories, a different mix of sub-industries may change the rate depending on the level of risk in those industries.

Other limitations of using CPS data in CFOI rate calculations include:

- State of residence versus state of incident: The CPS counts workers by their state of residence, whereas the CFOI counts workers by the state of incidence.
- Primary job versus job at the time of incident: The CPS annual average employment data in the rate calculations count workers according to their primary job, whereas CFOI uses the job held when fatally injured.
- Employment sampling errors: The CPS data uses a sample of households, therefore the CPS estimates, and the fatality rates based on them, have sampling errors.